

## REMARKS

Claims 1-9, 11-13 and 15-44 are now in the case. Claims 10 and 14 have been canceled and a new claim 44 added. Claim 44 finds support in original claim 14 and paragraph 0021 of the specification. Claim 10 has been canceled thus avoiding the rejection under 35 U.S.C. 112 second paragraph and claim 25 amended to recite that the steps set forth in that claim relate to the forming of the article, thus avoiding the rejection of that claim under 35 U.S.C. 112 second paragraph.

The Examiner has indicated claims 11, 12, 13, 35, 36 and 37 to be drawn to allowable subject matter. The elements claimed in these claims in accordance with the instant amendment have been incorporated into claims 1 and 31, so that these claims and all of the claims which directly or indirectly depend on these two claims are allowable to the applicants.

As to the Examiner's rejection of the claims on Choi in view of Carter or Shibue, further in view of ASM handbook and further in view Lavernia or Hebsur, as just stated above, all of the limitations contained in the allowed claims are now to be found in the independent claims. In this regard, the Examiner has conceded that Choi, the primary reference "does not specify the degassing or forming steps as recited in the applicants' claims, and does not specify the milling media as recited in claims 1 and 31 as amended."

It is his position that these omissions are cured by the secondary references and specifically that the disclosure of Choi together with those of Carter or Shibue, the ASM handbook and Lavernia or Hebsur would have taught the process as presently claimed to one of ordinary skill in the art.

First, the Examiner's further acknowledgement that "The prior art does not disclose or suggest processes involving alloys as recited in these claims," claims 11-13 and 35-37, is now the prevailing situation with respect to all of the claims.

Carter et al. teaches degassing hydrogen from solid titanium using calcium metal. The "degassing" method and process taught by Carter et al. are entirely irrelevant to the method and process taught by the present invention, wherein vacuum is used. Carter et al. does not teach or suggest using vacuum to degas the titanium alloy.

The Shibue powder processing comprises "the sequential processing of Ti powder and Al powder or Al alloy powder, wherein these powders are combined and formed into shaped mixtures of Ti and Al or Al alloy using a plastic working method followed by a heat treatment in an inert atmosphere at a temperature of 300 °C or above to synthesize titanium aluminide while diffusing Al into the Ti structure and to form and disperse the Al<sub>2</sub>O<sub>3</sub> phase occurring in both the reaction between Al and oxygen in the Ti structure and the oxides on the Al powder surface." (column 1, line 66 to column 2, line 8). The patentee recites that these "techniques can be combined with pre-treatments such as powders compaction or vacuum degassing of the powder mixture. The prepared shaped mixture is then subjected to heat treatment in a vacuum or inert gas atmosphere" preferably at a temperature of "1,200 ° to 1,400 °C and a processing period of 0.5 to 100 hours." (column 2, lines 46 to 50, and 59 to 60). Neither the purpose, sequence of steps or results has anything to do with the process of the invention.

Lavernia is concerned with the preparation of microcup talline coatings in connection with which it is disclosed that cryomilling in liquid nitrogen leads to the in situ formation of nanometer scale oxy-nitrides and namely that particular reinforced

NiAl-CoCr AlY-ALN composites by cryomilling NiAl + CoCr AlY-ACN in liquid nitrogen to obtain a powder which forms upon consolidation a particulate reinforced composite alloy of a NiAl-CoCrAl1 Matrix having particles of AlN within the matrix which is then consolidated.

Neither the objectives, the technique used, the starting materials or the final product have anything to do with the invention.

The same is true of Hebsur which deals with a NiAl-CoCrAlY Matrix containing particles of AlN dispersed therein. The same starting materials as in Lavernia etc. are utilized in this instance.

There is nothing to be gleaned from the references themselves of making the combination of teachings suggested by the Examiner. The applicant's specification is not available for this purpose. Knowing the invention makes it seem obvious. The U.S. Supreme Court has cautioned against "slipping into the use of hindsight" and urging courts "to resist the temptation to read into the prior art the teachings of the invention in issue." *Graham v. John Deere Co.*, 363 U.S. 1, 148 USPQ 459, 474 (1966). For example, impermissible "hindsight" is using knowledge of the solution to determine that the answer to the technical problem was "obvious," whereas to one without knowledge of the solution, the answer was not "obvious" at all.

An example of the impermissible use of hindsight is to combine pieces of the prior art to argue that a combination invention is obvious. There must be something in the prior art that suggested the combination of these particular prior art devices and processes other than the hindsight gained from knowing that the inventor chose to combine these

particular things in this particular way. *Uniroyal inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988).

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teaching of references can be combined *only* if there is some suggestion or incentive to do so. *ACS Hosp. Sys. Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984).

When prior art references require selective combination to render obvious a subsequent invention, there must be some reason for the combination rather than the hindsight gleaned from the invention itself. Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988).

It is improper to use the inventor's patents as an instruction book on how to reconstruct the prior art. To properly combine references, there must have been some teaching, suggestions, or inference in the references, or knowledge generally available to one of ordinary skill in the art, that would have led one to combine the relevant teachings.

R. Harmon, *Patents and the Federal Circuit* §4.7 (1988).

It is submitted that claims 1-9, 11-13 and 15-44 are allowable to applicants and notification to this effect is now respectfully requested.

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